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Directorate of Intelligence
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Colombia: Promoting Energy Exports

Summary

President Gaviria's Hemispheric Energy Initiative, proposing that Latin America coordinate its energy policies to reduce regional dependence on Middle East oil, is largely intended to take advantage of Colombia's comparative wealth in coal and hydropower. Joint projects planned with Mexico and Venezuela should further these goals and, by allocating regional energy resources more cost-efficiently, will support US interest in strengthening regional economies. With Colombia's oil production likely to remain limited due to the size of its geological basins, Bogota's hopes for expanding energy exports rest in large part on Latin America turning increasingly to Colombian coal to generate electricity. Mexico, Costa Rica and Chile are prospective markets, although rate of conversion to coal throughout the region will be retarded as long as oil prices remain moderate. Moreover, Colombia's potential to become a major exporter of hydropower is limited by financial constraints on improving the power grid to handle increased demand. Furthermore, Bogota's fitness as a reliable energy supplier is undercut by the military's inability to prevent guerrilla attacks on Colombia's oil, coal, and power facilities. Despite investment risks caused by guerrilla disruptions of the energy sector, however, Colombia's success in attracting foreign investors through the use of flexible contracts and liberal regulations will help build its export potential. [redacted]

This memorandum was prepared by [redacted] *Office of African and Latin American Analysis. Comments and queries are welcome and may be directed to the Chief,* [redacted] *ALA,* [redacted]

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Gaviria's Hemispheric Energy Initiative

President Gaviria's Hemispheric Energy Initiative, first introduced at the Group of Three[1] meeting in Caracas last September, seized upon the Persian Gulf crisis to promote Colombia's regional energy exports under the rubric of increasing Latin American energy independence. Although it produces more energy than it consumes, Latin America imports as much as 1.2 million barrels of crude per day from the Middle East because some of its refineries are not configured to use the type of crude produced regionally. Gaviria proposed that Latin American governments reduce their dependence on oil imports from the Middle East by diversifying their energy consumption and integrating energy policies. [redacted]

In promoting his plan, Gaviria gave priority to forging agreements with Latin America's two other major energy producers--Venezuela and Mexico--which saw in his Initiative a policy framework for promoting their own energy agendas. Venezuela was expanding its oil production capacity to compensate for lost Iraqi and Kuwaiti production and was eager to secure new and lasting markets in the region even after the Gulf crisis ended. Mexico was looking for an alternative, cheaper fuel for domestic consumption in order to free more of its oil production for export. The Group of Three agreed at the Caracas meeting to cooperate in energy exchanges and projects that would play to each of their strengths.

-- Colombia and Venezuela would export coal and gas via a pipeline to Mexico, permitting Mexico to export more petroleum.

-- Mexico agreed to use coal and gas-fired generation in new thermoelectric plants, relieving some additional demand on oil, which could then be exported.

-- Colombia and Venezuela would link their electrical grids, and later connect with Mexico through Central America.

-- Bogota and Caracas would investigate the possibility of building a gas pipeline from Lake Maracaibo to central Colombia. [redacted]

Gaviria's Initiative, however, has drawn little interest from most key South American countries, which had already recognized the benefits of energy integration and were moving ahead with joint projects of their own. Over the past year, for example, Brasilia and La Paz have dusted off plans to build a pipeline to power a Brazilian thermoelectric plant with Bolivian gas, although financing problems have put the project temporarily on hold. With its

[1]The Group of Three is composed of Colombia, Venezuela, and Mexico. (U)

financing in place, Argentina is building a gas pipeline to Chile that eventually will supply Santiago. Brazil and Paraguay reportedly are considering selling electricity from the jointly-owned Itaipu Dam to other Southern Cone Common Market (Mercosur) countries, and Paraguay and Argentina are building the Yacyreta Dam across the Parana River. [redacted]

Steering Away from Oil

Faced with the overwhelming dominance of Venezuela and Mexico in regional oil markets, Gaviria's Initiative did not anticipate a large role for Colombia's petroleum industry. Colombia exports about 180,000 barrels of oil per day (b/d), compared with Venezuela's 2.0 million b/d and Mexico's 1.36 million b/d. Moreover, until recently, Colombia's oil and gas discoveries had not kept pace with production, [redacted] shrinking proven reserves from 2.2 billion barrels in 1988 to 2.0 billion barrels in 1990. Last month, however, British Petroleum and its foreign partners, Total Compagnie Francaise and Triton Energy Corporation, announced that they had discovered a new deposit containing as much as 1 billion barrels of high quality crude. Some industry analysts believe the field contains only 300-500 million barrels, but no one will know the size of the find with any confidence until additional testing is completed and analyzed later this year. If British Petroleum's initial assessment is correct, Colombia would double its reserves, allowing it to remain a small exporter until 2010, according to our estimates. Colombia's natural gas reserves amount to some 4.0 trillion cubic feet, but production is allocated entirely to the domestic market. [redacted]

Marketing Coal

Recognizing Colombia's limited oil export potential, Gaviria probably intended his Initiative primarily to promote coal exports during a period of oversupply and sluggish prices.[2] Coal is Colombia's richest mineral resource, with reserves of some 22 billion metric tons and output of close to 19 million metric tons per year. Exports reached 14.6 million tons last year, and Colombia expects to double that amount within the next five years as the 250 million ton La Loma mine begins production. The coal, which has a low sulfur content and less than 8 percent ash content, will last a millennium at the current rate of extraction, according to an industry spokesman. [redacted]

Latin America is increasingly turning to coal to generate electricity, according to the World Energy Statistics and Balances handbook, and Gaviria clearly hopes the region will become a bigger market for Colombia. Currently, 80 percent of the state-owned company Carbocol's exports are sold to Western Europe, Asia, and Africa, while the remaining 20 percent is exported to the

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[2]Coal prices declined during the spring and are expected to remain soft this year. [redacted]

Petroleum Industry

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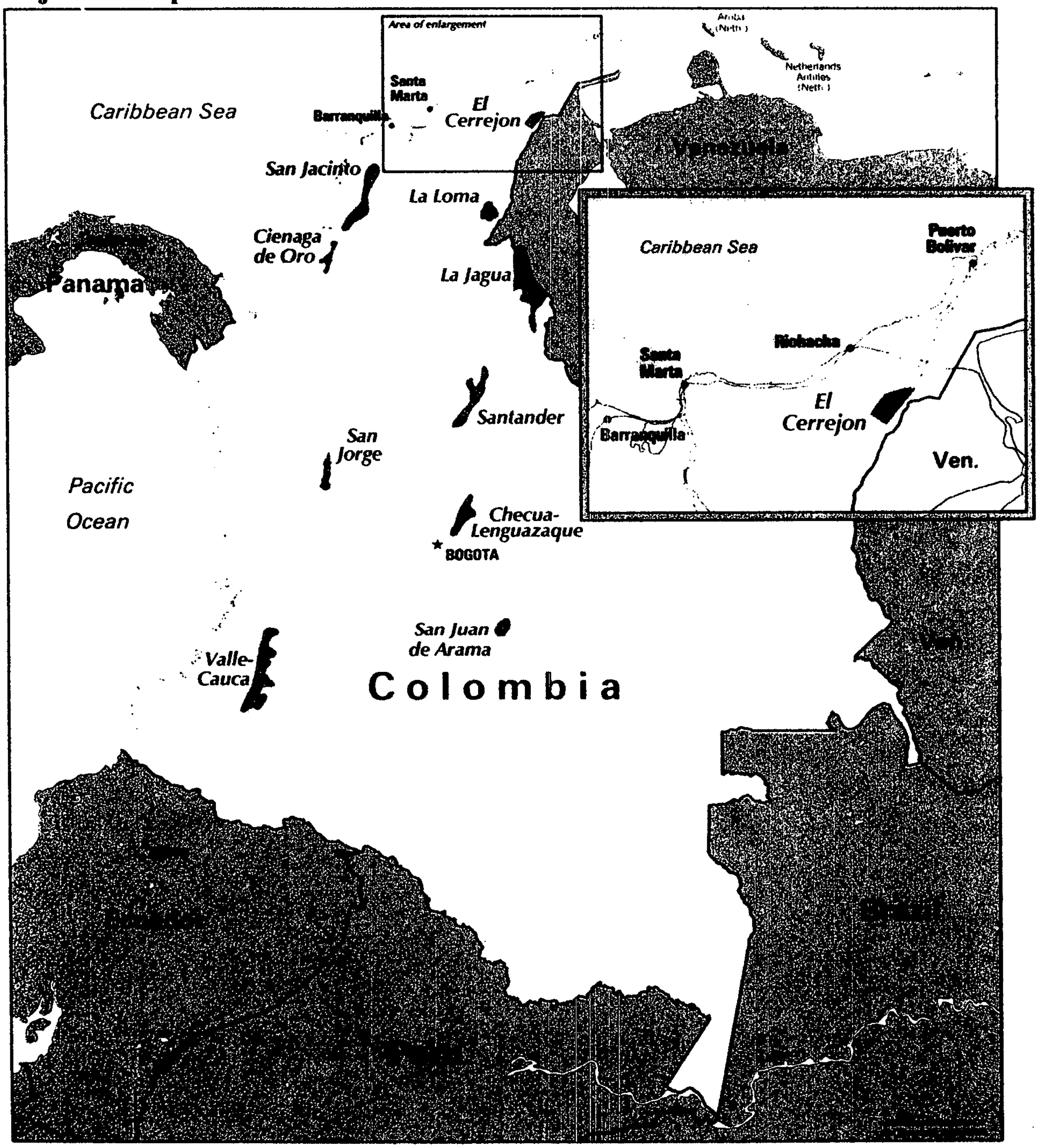
United States, Argentina, Peru, a few Caribbean countries, and sold on the spot market. In support of Gaviria's Initiative, Mexico City signed a letter of intent to purchase 500,000 tons of coal in 1993 and an additional 500,000 tons each subsequent year until annual purchases reach 2 million tons [redacted] In addition, the Mexicans are considering developing deposits in Colombia's Cesar Department to produce coal to supply several thermoelectric plants presently under construction. Elsewhere in Latin America, Chile and Costa Rica are among the potential markets for Colombian coal. [redacted]

Carbocol is facing financial strains, but the rapid development of the coal sector will help the company outgrow these difficulties and will also benefit foreign investors. [redacted] Carbocol owes $1.5 billion to the United States, other official creditors, and international banks as a result of the financing terms of the company's joint venture with Exxon at Cerrejon North, which were based on higher projected coal prices and required Carbocol to begin making principal payments before the mine began exporting coal. Cash flow statistics provided by the Ministry of Finance indicate the project will not operate in the black until 1998. Carbocol's bad experience with the Cerrejon North joint venture has caused the state-owned company to reduce its involvement in new projects and grant mining contracts for 100-percent ownership to foreign companies. Although higher exports and royalties from these foreign operators should ease Carbocol's financial situation, Bogota has agreed in principle to sell off its interest in Cerrejon North to private companies as part of a deal to reschedule Carbocol's debt. [redacted]

Hydroelectric's Untapped Export Potential

Although overshadowed by Colombia's coal industry, the country's hydropower is abundant and Gaviria's Initiative anticipates exploiting this resource over the longer term to supply electricity to Central America and Mexico. Colombia has an estimated 120,000 megawatts of hydro potential, according to a World Bank study, only 5 percent of which has been tapped so far. Furthermore, Colombia's current power generating capacity is projected by the World Bank to exceed demand by at least 1,000 megawatts through 1996. A nationwide power grid links the system--which includes 24 major hydroplants and four thermal plants--while large reservoirs assure continuity of power supply during the drier seasons. [redacted]

Major Coal Deposits



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The Gaviria government is pressing ahead with plans to harness its hydropower potential; [redacted] Bogota has requested loans from the World Bank and the Inter-American Development Bank to build the Urra I hydroplant in Cordoba Department near the Panamanian border and construct a high-tension wire linking Colombia's electric power grid to Venezuela's. The development of Colombia's hydroelectric export potential, however, is constrained by a transmission system inadequate to meet the energy demands of its own north coast--let alone Central America--as well as by financial problems. Despite overall surplus capacity, Colombia is unable to meet peak demand for electricity in the economically important northern Atlantico Department because the transmission lines cannot carry sufficient wattage. Bogota needs to improve its transmission capability, enabling hydroplants in central Colombia to fully supply the needs of the northern coast, before it can export through that system to Central America. Subsidized residential tariffs, clandestine line tapping, and debt service payments, however, continue to limit funds for upgrading the transmission network.[3] In fact, the utilities have not generated enough revenue to service their foreign debt--estimated at $5.5 billion, or roughly one third of total external public sector debt, [redacted] forcing the central government, other state enterprises, and multilateral lending agencies to make up the shortfall. [redacted]

Bogota is aware of the problems that plague the power sector, [redacted] but in our view has not demonstrated the ability to remedy the situation. After declining during President Barco's administration, illegal tap-ins increased by 23 percent last year because of lax enforcement by the Gaviria government. Bogota raised electricity fees in 1990, but probably will find it difficult to hike residential rates substantially this year while it is struggling to control inflation. Although the sector is scheduled to receive $500 million in 1991 from commercial banks and the Inter-American Development Bank, Colombia's failure to control the system's losses and reduce subsidies could jeopardize, or at least reduce, critical World Bank funding. [redacted]

Guerrillas Threaten Energy Sector

Despite Colombia's export potential, guerrilla attacks on its energy infrastructure and the sector's employees limit Bogota's ability to be a reliable energy supplier. Over the past four years, for example, the National Liberation Army (ELN) and other guerrilla groups have blown up sections of

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[3] Discounted electricity fees for residential consumers--which make up a disproportionate share of total users in Colombia--cost utility companies some $460 million per year, according to a World Bank study. Meanwhile, high tariffs charged to commercial and industrial users have prompted large-scale theft and meter tampering. [redacted]

the Cano Limon-Covenas oil export pipeline 134 times, according to Ecopetrol, at an estimated cost of $600 million in foregone production, repairs, and oil spills. Outraged by the government's assault in December 1990 on the largest insurgent group's sanctuary and their exclusion from the Constituent Assembly, the country's two major insurgent organizations have stepped up their attacks on the oil industry this year and expanded their targets list to include electrical pylons and coal mines. [redacted] Pipeline disruptions have forced Bogota to reschedule crude oil exports, while attacks on electric stations have necessitated power rationing throughout the country, especially along the north coast. Attacks on mining camps have destroyed costly equipment and bankrupted at least one company. [redacted]

The military has responded to the damaging guerrilla offensive by beefing up security at major installations and increasing the number of air patrols over the main pipelines, but these steps have had limited effect so far. The linear expanse and isolated locations of pipelines and powerlines make it practically impossible to protect them from the guerrillas' small-unit, hit-and-run attacks. To increase its capacity for coping with the guerrilla challenge to the energy sector, the Army is planning to form in the coming weeks two new mobile brigades of select counterinsurgency troops and organize 10 new counterinsurgency companies--three to patrol a pipeline under construction in central Colombia, one each to patrol oil facilities in Putumayo, Barrancabermeja, and southern Bolivar Department, and four to cover the electric grid and mining camps. The military will be supported by 5,800 newly recruited policemen. Although Bogota is planning to levy a war tax on wealthy taxpayers and the energy industry to pay for these initiatives, the government will be hardpressed to find enough qualified personnel to immediately staff the new units. [redacted]

Foreign Investment Key to Energy Sector Development

The growing costs and risks of operating in Colombia have discouraged some prospective investors and limited reinvestment in the energy sector. Foreign oil companies often are forced to pay war taxes to guerrillas, [redacted] as well as provide the military with vehicles and other supplies. [redacted] Earlier this year, for example, a French pipeline construction company halted operations after guerrillas kidnapped three of its engineers. Similarly, a large US seismic survey company temporarily suspended operations after its camp was repeatedly raided by insurgents. [redacted]

Despite these negative factors, Colombia remains a relatively attractive place for foreign investors, in part because the government realizes that such investment is key to enhancing export potential and has sought to provide appropriate incentives. US companies alone have invested over $2.3 billion in Colombia, primarily in the petroleum and coal industries, and US companies and other foreign firms own 40 percent of total oil output and more than 25 percent of coal production. [redacted] the flexibility and benefits of Colombia's association contract (see box below) are directly responsible for attracting the foreign capital that has made Colombia a net exporter. Moreover, Bogota appears willing to negotiate better contracts to assuage the concerns of multinational companies about guerrilla attacks. For example, foreign companies signed more than 20 new association contracts after Bogota yielded to their pressure in mid-1990 and revised the joint risk contract to increase their ownership of oil discoveries. [redacted]

Moreover, Colombia's foreign investment regulations compare favorably with those of many other Latin American countries. A new law passed in January 1991 puts foreign investors on an equal footing with local companies and permits foreign firms to remit as much as 100 percent of capital registered during the past year, up from 25 percent previously. The law also provides foreign investors with export incentives and equal access to local credit sources. In addition, labor, tax, and foreign exchange laws have been changed to encourage economic growth and exports. [redacted]

The Association Contract

Since the mid-1970s, foreign companies wishing to invest in Colombia have entered into association contracts with state-owned companies. Only a few remaining concessions for 100 percent ownership granted prior to 1974 are still in operation.

-- Under the standard association contract, the operator assumes the risk associated with exploration. If there is a commercial find, however, development costs and revenue from production are shared equally with the state energy company, such as Ecopetrol. Foreign operators pay a 40 percent income tax and a 20 percent royalty. Contract terms generally are for 28 years, with a six year exploration period.

-- Joint risk contracts, applied to petroleum operations in areas reserved for Ecopetrol, place some of the burden of exploration risk on Ecopetrol and increase its share of the discovered oil. Ecopetrol's participation is determined by the output of the most productive well in the oil field, beginning with a 50 percent minimum. The same tax, royalty, and terms apply to the standard and joint risk contracts, but the potentially smaller production share make the joint risk contract relatively less attractive to foreign investors.

Outlook and Implications

We believe Gaviria's Hemispheric Energy Initiative will have mixed results in achieving its objective of increasing Colombian energy exports by focusing on a previously ignored market--Latin America. While Latin America, and in particular Mexico, probably will become a larger market for Colombian coal within the next few years, the region as a whole is likely to remain highly dependent on oil--the one energy resource in which Bogota does not have a comparative advantage. As long as oil prices remain moderate, Latin American countries probably will not undertake the conversion of plants fueled by petroleum to coal. Moreover, inadequacies of Colombia's transmission system and the time it takes to build new hydroelectric plants are likely to prevent Colombia from exporting electricity within the next five years. Finally, Colombia's reputation as a reliable energy supplier will suffer as long as guerrillas attack the country's pipelines and power grid with virtual impunity.

The export potential of Colombia's energy sector will continue to depend heavily on the active involvement of foreign companies. While the high cost of operating in a hostile environment may discourage all but the largest multinational companies, we believe Bogota will continue to attract foreign capital. In addition to benefiting Colombia, Bogota's incentives to encourage foreign investors provide a model for other Latin American countries wishing to develop their energy sectors with the aid of foreign investment. [redacted]

From the perspective of US interests, Gaviria's Initiative has multiple potential benefits. By freeing Mexican oil for export and increasing regional coal production, the Initiative supports US National Energy Strategy objectives to increase and diversify surplus energy production capacity outside the Persian Gulf. Moreover, Colombia's low sulfur coal is an available alternative to high sulfur coal as US power plants convert to cleaner fuel to comply with provisions of the Clean Air Act Amendments of 1990. In addition, the integration of energy policies among the Group of Three should strengthen Latin economies over the long term by increasing the supply of energy in the hemisphere and decreasing the cost, making them better trading partners for each other and for the United States. [redacted]

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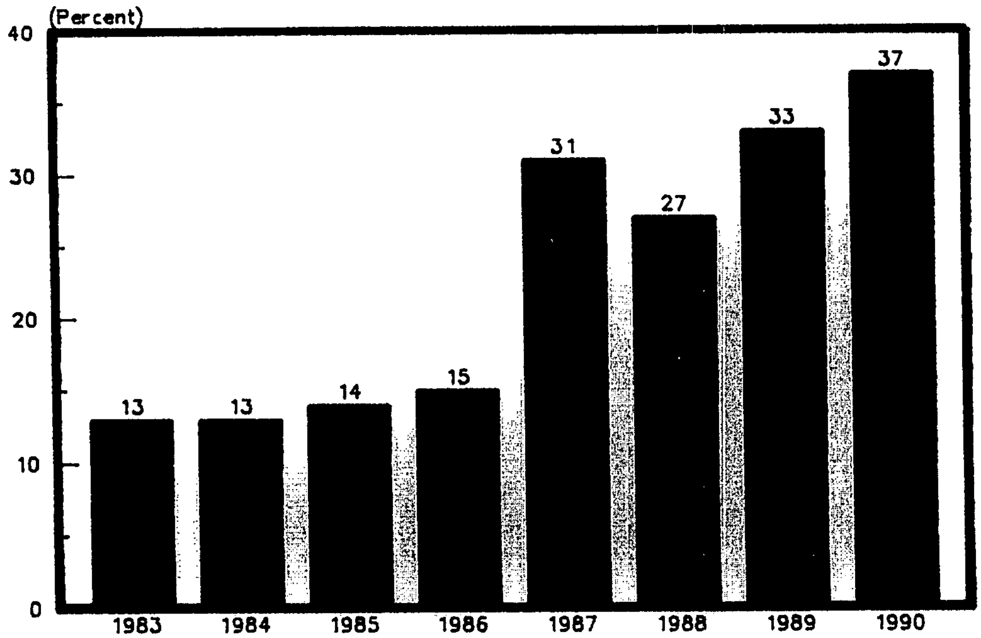
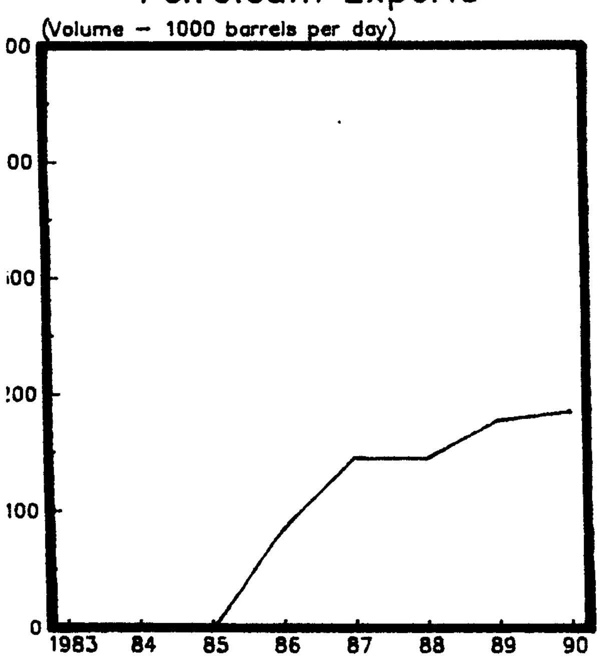
Colombia: Energy Exports

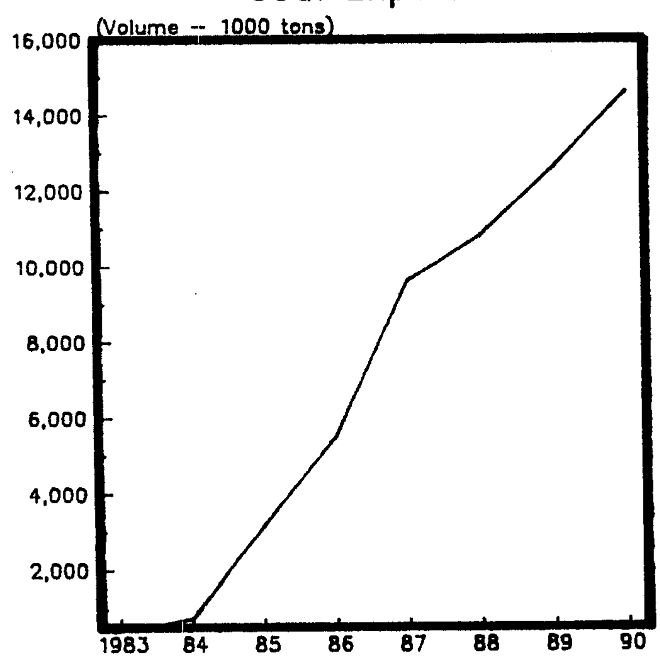
Energy Exports/Total Exports



Petroleum Exports



Coal Exports



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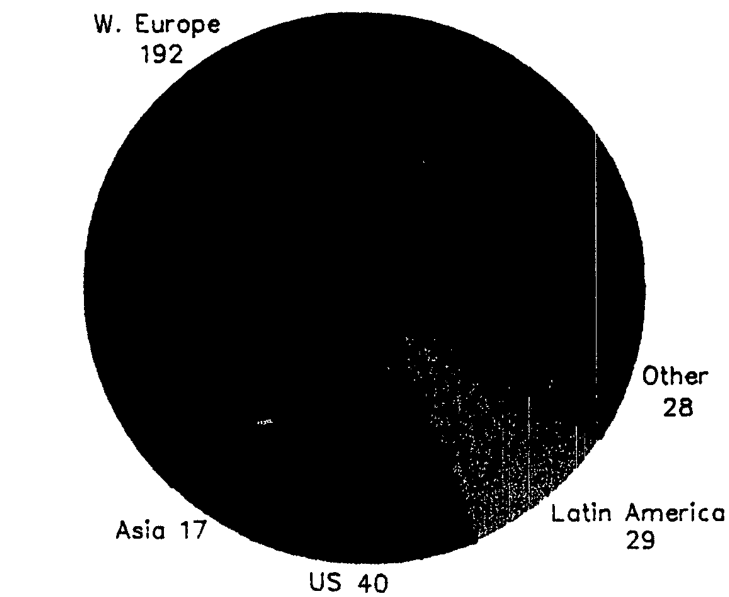
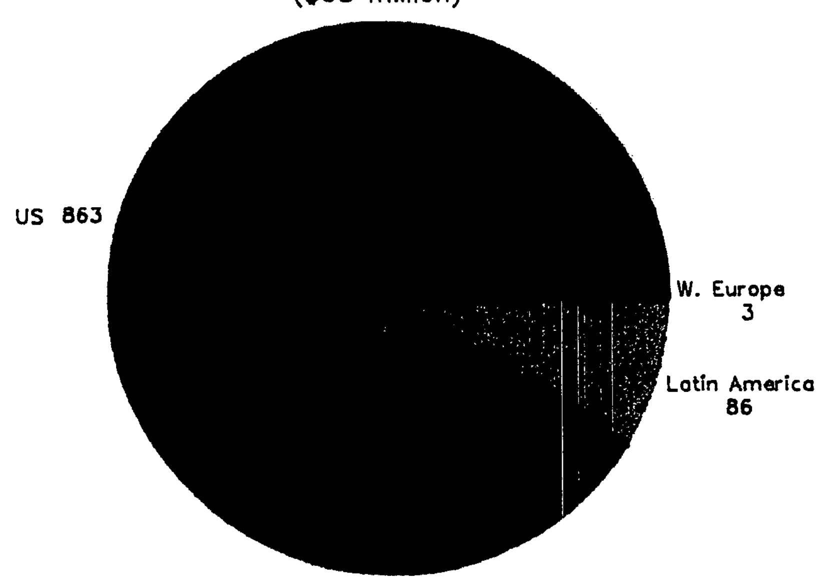
Major Markets For Colombian Energy Exports

Coal – 1988
($US million)



Petroleum – 1988
($US million)



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